

**First Information
Brochure**

**2nd International Conference on
Processing and Characterization of Materials**

(ICPCM-2019)

December 12th-14th 2019



Organised by

Department of Metallurgical and Materials Engineering

National Institute of Technology, Rourkela

www.nitrkl.ac.in/icpcm2019

Venue: TIR Building

Knowledge Partners

Massachusetts Institute of Technology (MIT) , USA

National University of Singapore (NUS), Singapore

Hanyang University (HU), South Korea

12+

Interactive session

5+

Keynote Lectures

50+

Plenary Lectures

20+

Exhibitors

About ICPCM-2019

Processing and Characterization of Materials have been used for millennia, starting from iron age and bronze age, and culminating in superalloy age. Advanced Processing offers an impressive array of benefits. The past decade has seen remarkable advances in the processing of the materials in various applications. Within engineering domain, processing direction have revolutionised traditional design concepts and made possible an unparalleled range of new and exciting possibilities as viable materials.

The Department of Metallurgical and Materials Engineering, National Institute of Technology Rourkela is going to organize the 2nd International Conference on Processing and Characterization of Materials (ICPCM-2019) during 12th-14th December 2019 after successful completion of earlier 1st international conference/8th national conference in this series (NCPCM-2011-2018). The *International Conference on Processing and Characterization of Materials*, ICPCM2019, will be a forum to bring together the users, manufacturers, designers and researchers involved in structures or structural components manufactured using different materials. The forum would provide an opportunity for the exchange of the researches and insights from scientists and scholars, and promoting research, development and use of composite material and structures. The conference theme for the ICPCM2019 is "Processing and Characterization: Recent Advances and Development", which tries to explore the very important role of innovation in the development of materials. Papers dealing with design, research and development studies, experimental investigations, theoretical analysis and fabrication techniques relevant to the application of materials in various assemblies, ranging from individual components to complete structure will be presented at the conference.

About NIT Rourkela

National Institute of Technology Rourkela (NITR), formerly Regional Engineering College Rourkela (REC Rourkela), established in 1961, is one of the premier national level institutions for technical education in the country and is funded by the Government of India. As per the Times Higher Education World University Rankings of 2018, NIT Rourkela has the position in between 601-800 in the world and 126th in Asia. QS BRICS overall University Ranking 2019 has figured NIT Rourkela at 121st position. NIT Rourkela is presently ranked the 2nd best NIT and 12th nationwide (including IITs) by the MHRD. The campus has all the amenities for developing personal, social and academic skills of the student community. The Institute has been modernized by two foreign collaborative funding agencies i.e. the Material theme in the Materials and Metallurgical Engineering department under Indo-U.K. REC project and the Computer Science and Electronics streams under World Bank cum Swiss Development Corporation IMPACT project. With 21 departments awarding graduate and post graduate degrees including Ph.D. in Engineering, Science, Planning and Architecture, Management, and Humanities, NIT Rourkela is one of the prestigious institutes in the country. NIT Rourkela is a well-known technical institute of national importance serving as a knowledge hub to the nation. The campus of the institute consisting of the Institute buildings, halls of residence and staff colony, spread over an area of 262 hectares of land is surrounded by scenic hills providing a spectacular rejuvenating atmosphere, which is very conducive for study and research. The well maintained green campus of the Institute provides accommodation to all students, faculties and staffs. The campus has all the amenities for developing personal, social and academic skills of young people. The greeneries and flowers in the campus further make the stay very pleasant and enjoyable.

About Department of Metallurgical and Materials Engineering

Established in 1964, the Department has emerged as a powerhouse for academics, scientific research, and cutting-edge technologies. With time, the department grew noticeably and established new areas of research and teaching in materials engineering, while retaining its strength in traditional areas of metallurgical engineering. The department is actively involved in fundamental research in diversified fields like steel technology, advanced manufacturing processes, alloy designing, nanotechnology, composites and computational materials. The alumni of the department hold strong positions in many prestigious organizations over the world. The department attracts highly qualified faculties and bright students from the entire nation. The well-developed infrastructure, diversified expertise of the faculties and incredibly talented students have placed the department in the global forum. The graduates from the department are well-placed in esteemed industries and institutions. The department has a history of producing highly ambitious students motivated for higher education in India and overseas. The department is actively involved in research activities in the front line areas of metallurgical and materials engineering in collaboration with reputed R&D organizations and industries throughout the country. The research wing of the department is strongly supported by various public and private organizations. At present, various research projects are being run in the department by external sponsoring agencies like Department of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR), Naval Research Board (NRB), Defence Research and Development Organisation (DRDO), Board of Research in Nuclear Sciences (BRNS), National Aluminum Company (NALCO), TATA Steels, Steel Authority of India Ltd (SAIL). Recently, Maruthi India and Swift strip India has joined hands together with the department for active collaborative industrial research on advanced materials.

Call for Papers

Interested Research Scholars, Faculty Members, Scientists and Engineers working in Research Institutes, Universities, Colleges and Industries related to the field of materials science & Engineering and allied branches may submit the Extended Abstract to the Conference convener. All selected Abstracts, Plenary, Invited Lectures and Contributory Papers will be published in the Book of Abstract
Publication in Springer Journal

The selected papers those will be presented in the Conference will be published in the Regular Issue of SCI/Scopus indexed journal: xxxxxxxxxx (to be updated soon)

Corresponding / Presenting Author(s) have to register themselves for the International Conference, without which the paper will not be considered for presentation

Nodal Dates	
Abstract Submission Deadline	09 September 2019
Notification of Acceptance	07 October 2019
Final Paper Submission Deadline	28 October 2019
Registration Deadline for Authors	28 October 2019



CONFERENCE TOPICS

✓ Materials Processing

- Process metallurgy
- Fabrication of Material
- Equipment Processing
- Designing of materials
- Industrial unit processes
- Machining of materials
- Processing of materials and its environmental effect

✓ Materials Characterization

- Characterization Technique
- Product characterization
- Microanalysis and surface analytical techniques.

✓ Advanced Materials

- Smart materials
- High Temperature Materials
- Ultralight materials
- Nanomaterials
- Nano-science and Engineering
- Plasma technology
- Biomaterials
- Bulk Metallic Glass
- Aero-vehicle Materials

✓ Composites

- Polymer, Ceramic, Metal matrix composites
- Fiber reinforced composites
- Nano composites, Bio composites
- Textile Hybrid composites
- Auxetic materials
- Porous and cellular materials
- Composite Repair techniques, self-healing
- Composites in Innovative applications
- Offshore structures and Marine Applications

✓ Surface Engineering

- Surface Design
- Surface modification technologies
- Surface process control
- Surface non-destructive examination
- Tribology of surface

✓ Waste Utilization

- Industrial Waste utilization
- Organic waste utilization
- Hazardous Waste utilization
- Recyclable waste
- Electronic waste utilization in material
- Industrial Waste management

✓ Sustainable Energy Materials

- Cleaner methods of producing energy and energy conservation
- Materials used for solar energy
- Materials used for wind energy
- Materials used for geothermal energy
- Materials used for tidal energy and hydropower
- Energy storage materials

✓ Computational Methods and Material

- Nonlocal theories
- Fracture mechanics, Delamination
- Generalized continuum theories
- Multiscale Analysis of materials
- Advanced Numerical Techniques
- Micromechanics
- Optimization techniques and methods
- Plate and Shell finite elements
- Industrial equipment structure design
- Structures simulations
- Thermal problems on material structures

✓ Nuclear Materials

- Radioactive material
- Transport of nuclear materials
- Storage of nuclear materials
- Disposal of nuclear materials
- Reactor design, fuels, fusion, future technologies
- Radioisotope production
- Naturally occurring radioactive materials

Submission of Synopsis / Full Text

The authors are requested to submit the abstract and full text (post-acceptance of abstract) through **e-mail to: icpcm.nitrourkela@gmail.com**

Guidelines for Authors

Authors of accepted abstracts may submit their full paper for the International Conference as per the Guidelines as mentioned below. The papers which are not following these guidelines may not be considered for peer review and publication.

Preparation of Abstract

- An Extended Abstract of the intended presentation highlighting important findings, relevant discussions and essential references
- Format: The Abstract should be in doc / docx; Title should be in 14 pt& Bold; Affiliation should be in 12 pt; Abstract should be in 12 pt Bold; Text of Abstract should be in 12 pt.; Maximum two figures; References in Harvard style. Maximum length of Abstract should be in two full A4 size pages.[The extended abstract should be in Times New Roman 1.5 spacing].
- Only those abstracts which follow the mentioned format will be considered for evaluation by the Scientific Committee of the Conference. The extended Abstract should be sent to: **icpcm.nitrourkela@gmail.com** on or before **9th September, 2019**.

Preparation of Power point Presentation

- 10 min Presentation followed by 2 min discussion

Preparation of Poster

- On evaluation, the Abstracts may be selected either for Oral or Poster presentation.
- Poster size should be 1 m x 1 m

The Organizers will confer Best Oral and Best Poster Awards based on the quality of presentations as would be adjudicated by the Panel of Experts

Preparation of Full Text of Paper

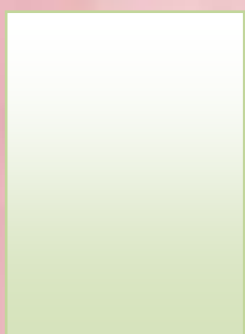
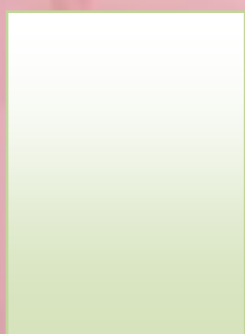
Papers should be camera-ready in MS-Word format, not exceeding 3000 words in length and should not carry more than 5 illustrations /photographs. The language of the Publication is English. The mode of presentation should be in third person. The Template for preparation of article is attached for ready reference of the authors. SI units should be used wherever possible. Other units, if used, should be given only in parentheses preceded by SI units. Mathematical symbols should be typed and care should be taken to differentiate between similar characters (e.g. 1 and I), upper and lower case letters and superscripts and subscripts. Lengthy mathematical proofs and derivations and extensive test data are discouraged. If absolutely essential, they should be given as an appendix. The template of Paper can be downloaded from the link: [xxxxxxxxxxxxxxxxxxxxxx](#)(to be updated soon)

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Publication in Scopus Indexed Journal

The selected papers those will be presented in the Conference will be published in the Regular Issue of 'xxxxxxxxxx' **Journal** after Peer Review process.



Registration Fee for the Conference

Delegates	Indian (INR)		SAARC country (US\$)		Others (US\$)	
	Early bird registration	After 28 th Oct, 2019	Early bird registration	After 28 th Oct, 2019	Early bird registration	After 28 th Oct, 2019
Students / Research Scholar	4,500	5,000	100	150	250	300
Faculties & Staff	8,000	9,000	150	200	350	400
Industrialist	10,000	11,000	200	250	400	450

*Spouse Registration: 2000 INR (USD 100)

Note: Registration Fee includes Participation in all Sessions of the Conference, the Exhibition, Official Banquet, Opening & Closing Ceremonies, Buffet Lunch along with Tea / Coffee, Delegate Kit, Local transport, etc.

Venue: NIT-Rourkela

Sponsoring Agencies

Categories	Charges and Facilities		
	Indian	Overseas	Free delegates
Platinum	INR 2,00,000	USD 2500	6
Gold	INR 1,00,000	USD 2000	4
Silver	INR 50,000	USD 1500	2
Bronze	INR 40,000	USD 1200	1

*Contributor: 30,000

Advertisement Tariff

A few selected advertisements of reputed organizations will be published in the Proceeding. The Advertisement material may be sent along with prescribed fee (below) may be sent on or before 31 October, 2019.

Back Cover (outside) Multi-Colour: INR 50,000

Back Cover (inside) Multi-Colour: INR 30,000

Full Page Multi-Colour (Inside): INR 20,000

Full Page (Inside) Black & White: INR 10,000

Half Page (Inside) Black & White: INR 5,000

Note: GST & Tax included

Eminent organizations associated with international equipment and technology, automation system and laboratory equipment manufacture etc. are invited to join this international event as Sponsors of the Conference. Sponsors will be allowed a free stall in the Exhibition, a full page color advertisement in the Souvenir, Free delegates and prominent display of their logos at Conference Venue. Details shall be provided on request.

Payment

*DD/Cheque drawn in favour of '**CONFERENCE NIT ROURKELA**', payable at **Rourkela**

For online payment, please follow the details:-

Bank Name: State Bank of India

Address of the Bank: State Bank of India, NIT Campus

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IFSC Code: SBIN0002109

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TAN NO.: BBNN00286G

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Accommodation

All Delegates have to arrange their own accommodation within the close proximity of the Conference venue. The list of available Hotels at all categories is mentioned at the back side of this Brochure.

About Rourkela City

Rourkelais a planned city located in the northern part of Odisha, India. It is the third largest Urban Agglomeration in Odisha. It is surrounded by a range of hills and encircled by rivers. The city is also popularly known as Ispat Nagar and also as the Steel City of Odisha. It has one of the largest steel plants of the Steel Authority of India Limited (SAIL) known as Rourkela Steel Plant. The city has been selected as smart city in the third phase of smart city list on 20 September 2016. Among all the 27 city list Rourkela ranked 12th position on merit basis. Rourkela is located at 84.54E longitude and 22.12N latitude in Sundergarh district of Odisha at an elevation of about 219 m (719 ft) above mean sea level. The area of Rourkela is 200 square kilometres approximately. Being situated on Howrah-Mumbai rail track, Rourkela had an added advantage of the steel plant being set up there. Red and laterite soils are found here which are quite rich in minerals. The area near Rourkela is rich in iron-ore hence a steel plant is situated in Rourkela. Bolani and Barsuan are the two most prominent mines situated near the town. A small hill range named Durgapur Pahad runs through the heart of the city dividing it into plant area and the steel township. The South Koel River and Sankha rivers meet at Vedvyas, Rourkela and flow as a single river called Brahmani. The Rourkela Township is divided into two separate townships under Census of India as Steel Township and Civil Township. The Residential quarters colony of Rourkela Steel Plant having 21 sectors on record is called Steel Township and the other part is called Civil Township. The 16 km long Ring Road, connects 19 sectors and some other parts of the steel city including old Rourkela. Other layouts include Chhend Colony, Civil Township, Station Road (Bus and Railway), Koel Nagar, Jagda, Jhirpani, Panposh, Udit Nagar, Fertiliser Township, Hamirpur, IGH Road, Vedvyas. Rourkela has a tropical climate and receives high rainfall during Southwest monsoon (June-September) and retreating Northeast monsoon (December-January). The minimum and maximum temperatures are in the range of 5 C to 49.7 C with a mean minimum and maximum temperature range of 12.0 C to 31.5 C during coldest and hottest months. Thirty six percent of the geographical area of the district has semi-evergreen or tropical dry deciduous forest.

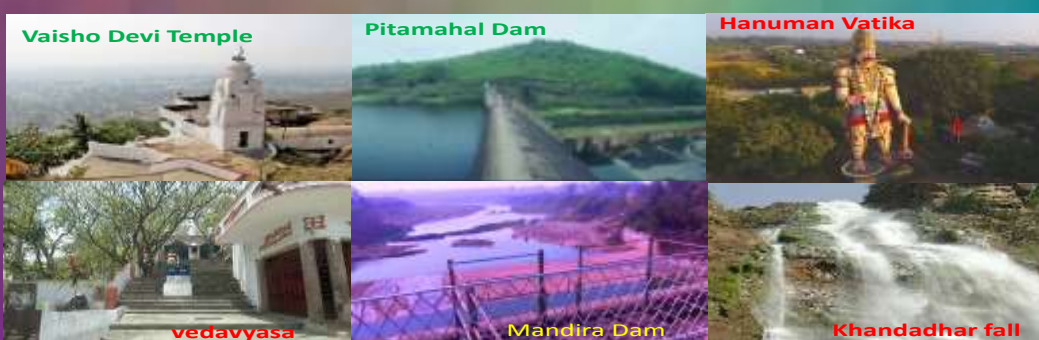
How to Reach

By Road - Rourkela is well connected by State Highway no. 10 and National Highway no. 23. It connects to the cities like Ranchi, Raipur, Sambalpur, Bhubaneswar etc.

By Rail - Rourkela railway station is 7 km away from the NIT campus. The Howrah-Mumbai line and Ranchi-Bhubaneswar line passes through this city.



Tourist Places Near Rourkela



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Safety and Security)

**2nd International Conference on
Processing and Characterization of Materials
(ICPCM-2019)**

December 12-14, 2019, Rourkela, India

REGISTRATION FORM
(Please Complete in Block Capitals)

Name (Prof / Dr / Mr / Ms).....

Job Title

Organisation with address.....

Country.....

Tel Fax

E-mail

Title of the paper:

Preferred method of presentation: ☐ Oral ☐ Poster ☐ Either ☐

Please find enclosed a DD / Cheque No. Dated:

Signature with date: _____

Please complete and return to:

The Convener

Room No: MS-202

Dept. of Metallurgical & Materials Engineering

NIT Rourkela

Sundargarh-769008

Phone: (+91) (661) 246 2575; Mobile: +91-9938383765

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2nd International Conference on
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(ICPCM-2019)

DECEMBER 12-14, 2019, ROURKELA, INDIA

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Dear Sir / Madam,

We would like to participate in the International Conference on 'Processing and Characterization of Materials (ICPCM-2019) to be held in NIT Rourkela on December 12-14, 2019 as Sponsor / Collaborator / Supporter/ Donor.

Enclosed please find a DD / Cheque No. Datedfor
Rs..... (in words)

Thanking you.

Yours faithfully,

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Dept. of Metallurgical & Materials Engineering

NIT Rourkela

Sundargarh-769008

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(Signature with Official Seal)

Date

About Previous Conferences

All paper published in
Scopus Indexed
Journal

2018

**1st International Conference on
Processing and Characterization of
Materials**

and

**8th National Conference on Processing and
Characterization of Materials**

**Published by: 1) Materials Science
Forum, 2) Int. Journal of Materials
Research**

2017

**7th National Conference on
Processing and Characterization of
Materials**

**Published by: Materials
Science and Engineering**

2016

**6th National Conference on
Processing and Characterization of
Materials**

**Published by: Materials
Science and Engineering**

2015

**5th National Conference on
Processing and Characterization of
Materials**

**Published by: Materials
Science and Engineering**

2014

**4th National Conference on
Processing and Characterization of
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**Published by: Materials
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2013

**3rd National Conference on
Processing and Characterization of
Materials**

**Published by: Materials
Science and Engineering**

2012

**2nd National Conference on
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Materials**

**Published by: Materials
Science and Engineering**

2011

**1st National Conference on
Processing and Characterization of
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Dr. Ajit Behera

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ajit.behera88@gmail.com

Ph no: +91-661-2462575 (O)

